

REMARKS/ARGUMENTS

Reconsideration of the current amendment, as amended, is respectfully requested.

With respect to pending claims 1-22, all were rejected. Independent claims 1, 7, 13 and 18 were rejected under 35 U.S.C. §102(b) for anticipation by four different references: U.S. Patent No. 5,903,385 which issued May 11, 1999 to Y. Sugaya *et al.* (Sugaya '385); U.S. Patent No. 6,388,801 which issued May 14, 2002 to Y. Sugaya *et al.* (Sugaya '801); U.S. Patent No. 6,323,994 which issued November 27, 2001 to J. Li *et al.*; and U.S. Patent No. 6,049,413 which issued April 11, 2000 to M.G. Taylor *et al.*

Accordingly, the applicants have amended all the independent claims 1, 7, 13 and 18 so they now include, in certain respects, the limitations of canceled dependent claims 4 (and 5), 10 (and 11), 16 and 21 respectively. Only the Taylor patent was used to reject these dependent claims (and independent claims). Specifically, claims 1-22 were rejected under 35 U.S.C. §102(b) for anticipation by Taylor patent, U.S. Patent No. 6,049,413. Hence the applicants address their arguments toward the Taylor patent.

With respect to the rejection of independent claim 1, the Examiner stated, "...Sugaya (presumably the Examiner meant Taylor) discloses a WDM (Fig 12) receiver system comprising: an optical amplifier system having variable gain (e.g., depending on the wavelength, Col. 1, lines 26-43); a demultiplexer (1208) receiving an amplified WDM signal from said optical amplifier system and separating said amplified WDM signal (Col. 8, lines 22-27) into a plurality of single wavelength signals each corresponding to a different WDM channel; a plurality of photodetectors (photodetectors 1210-1...1210-n) monitoring power levels (via 1212-1...1212-n and Col. 8, lines 27-30) of said plurality of single wavelength signals; and a gain control system (via 1214 and 1216-2 to 1216-5) that receives power level indications from said plurality of photodetectors and controls a gain of said optical amplifier system such that a power level indication based on said output powers monitored by said plurality of photodetectors is set within a desired range (Col. 8, lines 30-45)." With respect to dependent claim 4, the Examiner continued, "Taylor discloses an optical filter (106 of Fig. 8) having dynamically controllable response characteristics, said optical filter receiving input from said optical amplifier system (via 104 of

Fig. 8 or 1206-5 of Fig. 8) and outputting a filtered optical signal to said demultiplexer (Col. 7, lines 20-63).”

Independent claim 1 covers an optical power control system configured for use with a wavelength division demultiplexer and has language similar to that of claim 7. For example, the claim 1 control system “...sets a gain of said optical amplification system such that a power level indication based on said output powers monitored by said plurality of photodetectors is set within a desired range and sets a tilt of said optical filter such that a difference in said monitored output powers is reduced.”

With due respect to the Examiner, the Taylor patent does not teach the invention now recited in independent claim 1. Optical filter 106 which is analogized to the applicants’ claimed optical filter “selectively attenuates certain optical signal wavelengths, e.g., the high gain wavelengths output from first segment of active optical fiber 04, while permitting other wavelengths to pass substantially unattenuated.” Col. 1, lines 60-65. As described, the optical filter 106 does not have a “dynamically controllable tilt” and the monitor circuit 1214 and tilt control circuits 1216-1...1216-5 which is analogized to the applicants’ claimed “control system” does not control or set a tilt of the optical filter 106, in contrast to the language of claim 1. Note that in Fig. 1 the filter 106 has no feedback loop and is not connected to the monitor circuit 1214 and tilt control circuits 1216-1...1216-5, in contrast to the optical attenuator 108. Hence claim 1 is distinguishable over the Taylor patent and should be allowable.

The rejection of independent claim 7 and dependent claim 10 were based on the same reasoning as the rejection of claims 1 and 4. As pointed above, the cited Taylor patent has no such teaching. The optical filter 106 which the Examiner has analogized to the applicants’ claimed optical filter is not responsive to a control system and has no “dynamically controllable tilt.”

In rejecting independent claim 13 (and dependent claim 16) and independent claim 18 (and dependent claim 21), Examiner stated, “Taylor discloses all limitations as discussed above, and further discloses filtering (via 1216-1...1216-5 of Fig. 12) said signal including said multiple WDM signals to adjust gain tilt (i.e. gain flattening) among multiple WDM channels (Col. 5,

lines 29-34 and lines 60-62).” But Taylor explains the operation of the tilt control circuits as follows, “Monitor circuit 1214 typically continues to output adjustment signals to tilt control circuits 1216-1 to 1216-5, thereby maintaining substantially equal power levels for each optical signal.” Col. 8, lines 42-45. Therefore, the applicants presume that the Examiner believe that the tilt control circuits 1216-1 to 1216-5 perform applicants’ step of “filtering said signal including said multiple WDM signals to adjust gain tilt among said multiple WDM channels so that a difference in said monitored output powers between selected WDM channels is reduced.”

However, the claimed step of “setting amplification on a signal including said multiple WDM channels so that said power level indication falls within a desired range” is not identified in the Taylor patent. In rejecting independent claim 13, the Examiner cites a portion of the Taylor patent from which the applicants’ citation immediately above is taken, but that portion does not teach the applicants’ step. That is,

“The received power modules supply power level signals corresponding to the received optical powers to monitor circuit 1214, which determines whether the received power levels are substantially equal. If not, monitor circuit 1214 outputs an adjustment signal to tilt control circuits 1216-1 to 1216-5. In response to the adjustment signal, each of tilt control circuits 1216-1 to 1216-5 outputs a corresponding attenuation control signal to the attenuators in amplifiers 1206-1 to 1206-5, thereby adjusting the output powers of the optical signals supplied from each of these amplifiers. Received power modules, in turn, detect the new optical power levels and supply new power level signals to monitor circuit 1214. Monitor circuit 1214 typically continues to output adjustment signals to tilt control circuits 1216-1 to 1216-5, thereby maintaining substantially equal power levels for each optical signal. (Underlining added.)” Col. 8, lines 30-45.

The applicants do not find the teachings of a setting amplification step as recited in claim 13. Claim 13 should be allowable.

Independent claim 18 has similar language as claim 13 and hence should also be allowable.

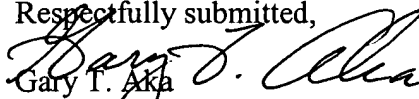
Claims 2-3 and 6 dependent upon claim 1, claims 8-9 and 12 dependent upon claim 7, claims 14-15 and 17 dependent upon claim 13, and claims 19-20 and 22 dependent upon claim 18 should all be allowable for at least being dependent upon allowable base claims.

Furthermore, at least some of these claims are allowable in their own right. For example, claim 8 recites that the power level indication toward which the claimed control system responds comprises an average of the output powers monitored by the plurality of photodetectors. Claim 9 recites that the desired range to which the power indication level is set corresponds to an optical receiver dynamic range. The Examiner's rejection of these dependent claims is unfounded. With respect to claim 8, it is readily evident that an average of quantities is not the same as the degenerate case where all quantities are equal. With respect to claim 9, as the applicants understand the Examiner's reasoning, the equalization of output powers automatically leads to maintaining the average of the output powers within the dynamic range of the optical receivers. This is not correct. The output powers of all channels can rise to saturation or fall to zero, i.e., outside the dynamic range of the optical receivers, yet the output powers are equal to each other. Simply stated, equalizing is not the same as averaging. Hence claims 8 and 9 should be allowable in their own right.

For the reasons stated above, dependent claims 2-3, 6, 8-9, 12, 14-15, 17, 19-20 and 22 should also be allowed.

Therefore, in view of the amendments above and the remarks directed thereto, the applicants respectfully request that the rejections be withdrawn, that claims 1-3, 6-9, 12-15, 17-20 and 22 be allowed, and the case be passed to issue. If a telephone conference would expedite the prosecution of the application in any way, the undersigned attorney asks that the Examiner call the undersigned at (408) 446-7687.

Respectfully submitted,


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